

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2015 – 2016 & thereafter)

SUBJECT CODE: 15BY/PC/MI14

M. Sc. DEGREE EXAMINATION, NOVEMBER 2016
BIOTECHNOLOGY
FIRST SEMESTER

COURSE : CORE
PAPER : MICROBIOLOGY
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS:

20 x 1 = 20

- The iodine used in gram staining serves as a
(a) Chelator (b) Catalyst
(c) Mordant (d) Cofactor
- Which among the following is called as filamentous bacteria
(a) Mycoplasmas (b) Spirochetes
(c) Actinomycetes (d) Vibrios
- Which of the following bacteria has the lowest 50% infective dose (ID 50)
(a) *Camphylobacter jejuni* (b) *Salmonella typhi*
(c) *Vibrio cholera* (d) *Shigella sonneri*
- The bacteria deficient in cell wall is
(a) Treponema (b) Mycoplasma
(c) Staphylococcus (d) Klebsiella
- Cell size and cell number can be measured using
(a) Hemocytometer (b) Coulter counter
(c) Petroff- hausser counting chamber (d) none of the above
- A living microbe with reduced virulence that is used for vaccination is considered
(a) Ataxoid (b) Dormant
(c) Virulent (d) Attenuated
- What is the most common cause of aseptic meningitis of viral etiology
(a) Enteroviruses (b) Herpes viruses
(c) Arbo viruses (d) Retro viruses
- Which of the following fungi is most likely to be found within reticuloendothelial cells
(a) *Histoplasma capsulatum* (b) *Sporothix chenckii*
(c) *Cryptococcus heotormans* (d) *Candida albicans*
- Mac Ewen's triangle can be felt through the
(a) Superior conchae (b) Cymba conchae
(c) Middle conchae (d) Posterior part of auricle
- Petroleum degrading species include
(a) Horcardia (b) Micrococcus
(c) Penicillium (d) All of the above

11. The first antibody to contact invading microorganisms was
 (a) IgG (b) IgM
 (c) IgA (d) IgD
12. Father of medical Microbiology is
 (a) Pasteur (b) Jenner
 (c) Koch (d) Al Hock
13. Virion means
 (a) Infectious virus particles (c) Non-infectious particles
 (c) Incomplete particle (d) Defective particles
14. Exotoxins are
 (a) Heat liable (b) Heat stable
 (c) Part of cell wall (d) Polymerized complexes
15. Salt agar is used for
 (a) Streptococcus (b) Staphylococcus
 (c) Vibrio (d) Shigella
16. Match the following equipments with their respective methods of sterilization A to E
 (1) Glass syringes (a) Autoclave
 (2) Disposable instrument (b) Chemical
 (3) Respiratory parts (c) Dry heat
 (4) Dialysis machine (d) g- radiation
 (e) Chicken pox in children
17. Antagonism is seen in which phase of growth
 (a) Log phase (b) Lag phase
 (c) Stationary phase (d) None of these
18. The suitable temperature to transport viral culture is
 (a) 30°C (b) 5°C (c) 25°C (d) 45°C
19. The monoclonal antibodies is
 (a) Immunotherapy (b) Gene therapy
 (c) Blood transfusion (c) Organ transfusion
20. The major ingredient of Penicillin production media is
 (a) Corn meal (b) Corn steep liquor
 (c) Cane steep liquor (d) None of these

SECTION – B

ANSWER ANY FOUR QUESTIONS EACH ANSWER NOT EXCEEDING 800 WORDS:

4 x 10 = 40

21. Write about the field of microbiology from ancient to modern.
22. Give an account on classification of bacteria.
23. Write about chemotaxonomy of bacteria.

24. Briefly describe microbial nutrition and its importance in microbes.
25. Write on the lifecycle of viruses.
26. Write an account on the applications of food Microbiology.
27. Explain in detail on the sexually transmitted diseases, prevention & control.

SECTION – C

ANSWER ANY TWO QUESTIONS EACH ANSWER NOT EXCEEDING 1500 WORDS:

2 x 20 = 40

28. Write an essay on physical and chemical methods of microbial control.
29. Explain about viruses classification.
30. Write critical comments on organic acids, amino acids, vitamin B12, Pharmaceuticals, antibiotics. Give suitable examples.
31. Write about microbial diseases, transmission patterns, spread and control measures.
